Power shortage in Jharkhand

†1807. SHRI AJAY MAROO: Will the Minister of POWER be pleased to state:

(a) whether Government is aware that Jharkhand is facing serious power crisis, thereby ffecting the normal life and industrial production;

(b) whether any request or proposal from State Government has been received in this egard; and

(c) if so, the action being taken thereon?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) Jharkhand witnessed 2.3% shortage both in terms of energy and peak during the period April, 2007 to February, 008.

(b) and (c) As most of the States/UTs have been facing power shortages, requests for dditional allocation out of unallocated power are received from many of them from time to me. The unallocated power of Central Generating Stations (CGSs) being limited, additional llocation is provided to the extent possible only after reducing the allocation of other tates/UTs keeping in view the nature of requirement (emergent, seasonal) and their relative ower supply position. Keeping in view the request received from Jharkhand, additional 40 1W power was allocated to the State from the unallocated power of NTPC stations in the astern Region w.e.f. 29.12.2007. Thus, the total power made available to Jharkhand by the overnment of India stands as 307 MW in the installed capacity of CGSs and Hydro Power tations of Bhutan.

Power generation and supply

1808. *DR. K. MALAISAMY: Will the Minister of POWER be pleased to state:*

(a) the details of quantum of power generation, State Electricity Board-wise;

(b) the quantum of power received at the distribution point;

(c) the quantum of transmission loss/pilferage;

(d) the average cost of supply;

(e) the average revenue realization;

(f) the annual deficit;

(g) the percentage of power going to farmers;

(h) the details of power provided from various sources and the quantum of demand for he entire country, State-wise;

(i) the action taken/proposed to overcome shortage of supply and to prevent theft;

(j) the potential sources for power supply yet to be exploited; and

(k) whether there is a study on this potentiality and corresponding move to exploit it?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) The details of quantum

†Original notice of the question was received in Hindi.

of power generated by various State Electricity Boards during the year 2006-07 are given Statement-I (*See* below).

(b) The quantum of power received at the consumers' end in the States/Union Territor during the year 2006-07 is given at Statement-II (*See* below).

(c) The State-wise details of quantum and percentage of T&D losses including pilfera are given at Statement-III (*See* below)

(d) to (f) According to a report of Power Finance Corporation, the average cost of sup of power, average revenue realization and annual deficit/losses in respect of Power Utilit for the year 2005-06 is as under:

Average cost of supply of power	:	Rs. 2.57 per kWh
Average revenue realization without subsidy	:	Rs. 2.20 per k Wh
Losses without subsidy	:	Rs. 19,546 crore
Losses (accrual basis)	:	Rs. 7,533 crore

(g) The share of Agriculture Sector in the total energy sold to various consumers power utilities during the year 2006-07 was of the order 21.73%.

(h The source wise details of power generation from various sources during the y 2006-07 are given in Statement-IV (*See* below). The State/System-wise energy requirem during the year 2006-07 is enclosed as Statement-V (*See* below).

(*i*) The steps taken/being taken to improve the supply of power in the country incl *augmentation of generating capacity by over 78,500 MW during the eleventh Pl* development of Ultra Mega Power Projects of 4,000 MW capacity each, improv performance of existing power stations, renovation, modernization and life extension of and inefficient generating units, harnessing surplus captive power into the gr strengthening inter-state and inter-regional transmission capacity for optimum utilizat of available power, promoting demand side management, energy efficiency and ene conservation measures and import of power from Bhutan.

The Electricity Act, 2003 has incorporated specific provisions for detection of theft electricity, speedy trial of theft related offences and also for the recovery of the charges electricity stolen. Based on the feedback from the States and other stakeholders, the Cen Government has further strengthened the theft related provisions in the Act by enact the Electricity (Amendment) Act, 2007. Under this amendment, theft of electricity has b explicitly made a cognizable and non-bailable offence. The distribution licensees have b empowered to disconnect the supply of electricity upon detection of theft. The penalty repeated theft of electricity by large consumers has also been enhanced.

The Central Government has also requested the State Governments to take steps effectively curbing power theft and has advised the introduction of suitable incent schemes for such informers who give clue of the source of theft of electricity. The rewar such a scheme is to be linked to the amount of recoveries that can be effected in the ca *reppрted. The State Governments have also been requested to expedite setting up of spe* courts as provided in the Electricity Act, 2003 for speedy disposal of theft related case

(j) and (k) Details relating to power generation potential and exploitation are as belo

Hydro Power:

According to a study conducted by the Central Electricity Authority during 1987, hydro-ectric potential in the country has been estimated as 84,044 MW at 60% load factor with obable installed capacity of 1,48,701 MW. Out of this, about 31,742 MW (21.3%) (excluding ipacity transferred to Ministry of New and Renewable Energy has been developed and /dro capacity of 13,847 MW (9.3%) is under construction. It is envisaged to develop the maining potential in a phased manner.

i) Non-Conventional Energy Resources:

According to information obtained from the Ministry of New and Renewable Energy MNRE), the total estimated medium-term potential (year 2032) for power generation from enewable energy sources such as wind, small hydro, solar waste to energy and biomass in ie country is about, 1,83,000 MW.

iii) R&D

The research and development efforts undertaken to exploit Coal Bed Methane and Gas Hydrates for power generation are at present at an exploratory stage, the details are as ollows:

** Coal Bed Methane:*

In order to explore and produce new source of natural gas from coal bearing areas, Government has formulated a Coal Bed Methane policy providing attractive fiscal and contractual framework for exploring and producing of Coal Bed Methane in the country. Government has awarded 26 blocks in the State of Jharkhand, Madhya Pradesh, Chhattisgarh, Maharashtra, Andhra Pradesh, Rajasthan, Gujarat and West Bengal for exploration and production of Coal Bed Methane. Moreover, ONGC is also carying out Coal Bed Methane operation in West Bengal and Jharkhand, ONGC has also signed a MoU with Coal India Ltd. to undertake joint exploration of Coal Bed Methane in North Raniganj as well as Jharsa Coal Fields.

** Gas Hydrates:*

Exploration of Gas Hydrates is at R&D stage all over the world. India is participating in the Gas Hydrate programme carried out by other countries. A road map was prepared for a National Gas Hydrate Programme (NGHP), under which, detailed geoscientific investigation was carried out in the KG Basin and Kerala-Konkan basin through the National Institute of Oceanography (NIO). Based on the results of seismic/data studies and geoscientific investigations, ten sites in Mahanada, KG and Kerala-Konkan basins and the Andaman sea have been short listed for deep drilling. After samples of gas hydrates are obtained, their study will lead to a bit understanding of the gas hydrates characterization in India as well as its resource estimates.

* Certain other technologies are also being looked into from the point of view of distributed generation to be provided at places where grid power is not economically viable. These would include biomass, photo voltaic and fuel cell technology.

Statement-I

Gross Electrical Energy Generation by State Electricity Boards during 2006-07*

(*Figures in Million Units*)

State/U.Ts.	Hydro	Steam	Diesel	Gas	Total (Thermal)	Nuclear	RES	Tota
1	2	3	4	5	6(3+4+5)	7	8	9(2+6+7+8
Himachal Pradesh	1455.64	0.00	0.00	0.00	0.00	0.00	0.00	1455.64
Punjab	8672.79	15434.64	0.00	0.00	15434.64	0.00	0.00	24107.43
Sub Total NR	**10128.43**	**15434.64**	**0.00**	**0.00**	**15434.64**	**0.00**	**0.00**	**25563.07**
Chhattisgarh	382.22	9227.49	0.00	0.00	9227.49	0.00	0.00	9609.71
Sub Total WR	**382.22**	**9227.49**	**0.00**	**0.00**	**9227.49**	**0.00**	**0.00**	**9609.71**
Kerala	7496.61	0.00	246.92	0.00	246.92	0.00	0.00	7743.53
Tamil Nadu	6320.43	21228.40	0.00	1488.38	22716.78	0.00	17.59	29054.80
Sub Total SR	**13817.04**	**21228.40**	**246.92**	**1488.38**	**22963.70**	**0.00**	**17.59**	**36798.33**
Bihar	17.07	37.25	0.00	0.00	37.25	0.00	0.00	54.32
Jharkhand	208.47	615.88	0.00	0.00	615.88	0.00	0.00	824.35
Sub Total ER	**225.54**	**653.13**	**0.00**	**0.00**	**653.13**	**0.00**	**0.00**	**878.67**
Meghalaya	394.51	0.00	0.00	0.00	0.00	0.00	0.00	394.51
Sub Total NER	**394.51**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**394.51**
TOTAL (ALL BOARDS)	24947.74	46543.66	246.92	1488.38	48278.96	0.00	17.59	73244.29

*Provisional

Statement II

The quantum of power received at the consumers end during 2006-07*

State/UT/Region	(Million Units)
Delhi	14677.14
Haryana	16642.97
Himachal Pradesh	4300.46
Jammu & Kashmir	4030.85
Punjab	26386.91
Rajasthan	20033.94
Uttar Pradesh	34543.73
Uttarakhand	3885.92
Chandigarh	1064.34
Northern Region	125566.26

State/UT/Region	(Million Units)
Gujarat	40772.65
Madhya Pradesh	20099.72
Chhattisgarh	9443.90
Maharashtra	62267.24
Goa	2324.37
Daman and Diu	1166.23
Dadra and Nagar Haveli	2718.00
Western Region	138792.
Andhra Pradesh	45872.25
Karnataka	30690.56
Kerala	11310.22
Tamil Nadu	49934.00
Puducherry	2024.99
Lakshadweep	24.17
Southern Region	139856.19
Bihar	3825.87
Jharkhand	10851.32
Orissa	9483.74
West Bengal	22618.48
Sikkim	211.93
A & N Islands	136.63
Eastern Region	47127.97
Arunachal Pradesh	138.50
Assam	2575.35
Manipur	217.38
Meghalaya	778.48
Mizoram	145.15
Nagaland	156.49
Tripura	394.59
North-Eastern Region	4405.94
ALL INDIA:	455748.47

* Provisional

Statement-III

State/UT-wise transmission & distribution (T&D) losses during the year 2006-07*

State/UT/Region	T&D Losses (Million Units)	T&D Losses (%)
Delhi	7229.59	33.00
Haryana	8326.49	33.35
Himachal Pradesh	1059.99	19.77
Jammu & Kashmir	4362.76	51.98
Punjab	9569.31	36.61
Rajasthan	11075.63	35.60
Uttar Pradesh	17393.4	33.49
Uttarakhand	2044.67	34.48
Chandigarh	357.15	25.13
Northern Region	61418.99	32.85
Gujarat	13496.97	24.87
Madhya Pradesh	12978.93	39.24
Chhattisgarh	4384.72	31.71
Maharashtra	28824.91	31.64
Goa	614.01	20.90
Daman and Diu	330.65	22.09
Dadra and Nagar Haveli	343.47	11.22
Western Region	60973.65	30.52
Andhra Pradesh	10517.54	18.65
Karnataka	10735.37	25.91
Kerala	2672.42	19.11
Tamil Nadu	12130.03	19.54
Pudducherry	467.53	18.76
Lakshadweep	3.57	12.87
Southern Region	36526.46	20.71
Bihar	3930.25	50.67
Jharkhand	3853.47	26.21
Orissa	6552.63	40.86
West Bengal	7002.51	23.64
Sikkim	77.82	26.86
A & N Islands	41.05	23.10
Eastern Region	21461.41	31.29

State/UT/Region	T&D Losses (Million Units)	T&D Losses (%)
Arunachal Pradesh	189.64	57.79
Assam	1308.36	33.69
Manipur	249.85	53.47
Meghalaya	425.51	35.34
Mizoram	89.63	38.18
Nagaland	189.67	54.79
Tripura	210.12	34.75
North-Eastern Region	2662.77	37.67
ALL INDIA	183043.28	28.65

*Provisional

Statement-IV

Source-wise details of Gross Electrical Energy Generation (Utilities Only), during 2006-07*

(*Million Units*)

State/U.Ts.	Hydro	Steam	Diesel	Gas	Total (Thermal)	Nuclear	RES	Total
1	2	3	4	5	6(3+m4+5)	7	8	9(2+6+7+8)
Haryana	3376.49	10765.20	0.00	0.00	10765.20	0.00	0.00	14141.69
Himachal Pradesh	3057.11	0.00	0.00	0.00	0.00	0.00	0.00	3057.11
Jammu & Kashmir	1314.73	0.00	12.44	0.00	12.44	0.00	0.00	1327.17
Punjab	8672.79	15434.64	0.00	0.00	15434.64	0.00	0.00	24107.43
Rajasthan	3191.77	18618.07	0.00	360.09	18978.16	0.00	552.15	22722.08
Uttar Pradesh	1483.41	21485.79	0.00	0.00	21485.79	0.00	0.00	22969.20
Uttarakhand	4293.66	0.00	0.00	0.00	0.00	0.00	46.47	4340.13
Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delhi	0.00	1346.75	0.00	3666.85	5013.60	0.00	0.00	5013.60
Central Sector NR	19277.18	54207.02	0.00	15981.37	70188.39	4692.00	0.00	94157.57
Sub-Total (NR)	**44667.14**	**121857.47**	**12.44**	**20008.31**	**141878.22**	**4692.00**	**598.62**	**191835.98**
Gujarat	1849.18	30216.13	0.00	11832.57	42048.70	0.00	454.91	44352.79
Madhya Pradesh	5117.69	13768.50	0.00	0.00	13768.50	0.00	70.43	18956.62
Chhattisgarh	382.22	9227.49	0.00	0.00	9227.49	0.00	0.00	9609.71
Maharashtra	8343.22	53560.26	0.00	5367.89	58928.15	0.00	1691.50	68962.87
Goa	0.00	0.00	0.00	354.59	354.59	0.00	0.00	354.59

1	2	3	4	5	6 (3+m4+5)	7	8	9 (2+6+7+8)
D. and N. Haveli	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daman & Diu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Central Sector WR	2605.58	36649.78	0.00	9811.56	46461.34	8947.00	0.00	58013.92
Sub-Total (WR)	**18297.89**	**143422.16**	**0.00**	**27366.61**	**170788.77**	**8947.00**	**2216.84**	**200250.50**
Andhra Pradesh	9524.37	22066.62	0.00	6520.96	28587.58	0.00	149.18	38261.13
Karnataka	15267.84	13545.50	381.15	530.66	14457.31	0.00	1397.66	31122.81
Kerala	7496.61	0.00	271.21	192.62	463.83	0.00	0.00	7960.44
Tamil Nadu	6320.43	23065.83	1657.55	4192.69	28916.07	0.00	5497.81	40734.31
Lakshadweep	0.00	0.00	28.15	0.00	28.15	0.00	0.00	28.15
Pondicherry	0.00	0.00	0.00	270.60	270.60	0.00	0.00	270.60
Central Sector SR	0.00	44108.35	0.00	1137.35	45245.70	5163.00	0.00	50408.70
Sub-Total (SR)	**38609.25**	**102786.30**	**2338.06**	**12844.88**	**117969.24**	**5163.00**	**7044.65**	**168786.14**
Bihar	67.21	37.25	0.00	0.00	37.25	0.00	0.00	104.46
Jharkhand	208.47	6060.00	0.00	0.00	6060.00	0.00	0.00	6268.47
Orissa	7468.18	3317.81	0.00	0.00	3317.81	0.00	0.00	10785.99
West Bengal	433.39	25349.32	0.68	0.00	25350.00	0.00	0.00	25783.39
D.V.C.	357.31	13779.10	0.00	0.00	13779.10	0.00	0.00	14136.41
A &N Islands	9.34	0.00	173.88	0.00	173.88	0.00	0.00	183.22
Sikkim	35.00	0.00	0.15	0.00	0.15	0.00	0.00	35.15
Central Sector ER	201.10	45184.77	0.00	0.00	45184.77	0.00	0.00	45385.87
Sub-Total (ER)	**8780.00**	**93728.25**	**174.71**	**0.00**	**93902.96**	**0.00**	**0.00**	**102682.96**
Assam	15.44	0.00	0.00	966.63	966.63	0.00	0.00	982.07
Manipur	2.82	0.00	3.16	0.00	3.16	0.00	0.00	5.98
Meghalaya	394.51	0.00	0.00	0.00	0.00	0.00	0.00	394.51
Nagaland	33.48	0.00	0.10	0.00	0.10	0.00	0.00	33.58
Tripura	46.32	0.00	0.00	511.35	511.35	0.00	0.00	557.67
Arunachal Pradesh	65.00	0.00	7.00	0.00	7.00	0.00	0.00	72.00
Mizoram	8.60	0.00	3.51	0.00	3.51	0.00	0.00	12.11
Central Sector NER	21581.19	0.00	0.00	2459.47	2459.47	0.00	0.00	5040.66
Sub-Total (NER)	**3147.36**	**0.00**	**13.77**	**3937.45**	**3951.22**	**0.00**	**0.00**	**7098.58**
Central Sector All India	24665.05	180149.92	0.00	29389.75	209539.67	18802.00	0.00	253006.72
TOTAL ALL INDIA:	**113501.64**	**461794.18**	**2538.98**	**64457.25**	**528490.41**	**18802.00**	**9860.11**	**670654.16**

*Provisional

Statement-V

Energy Requirement during 2006-07

State/System/Region	Energy Requirement (Million Units)
Chandigarh	1,343
Delhi	22,397
Haryana	26,249
Himachal Pradesh	5,136
Jammu & Kashmir	11,725
Punjab	38,641
Rajasthan	33,236
Uttar Pradesh	57,441
Uttarakhand	5,957
Northern Region	202,125
Chhattisgarh	14,063
Gujarat	62,464
Madhya Pradesh	38,710
Maharashtra	110,005
Daman and Diu	1,602
D. N. Haveli	2,923
Goa	2,624
Western Region	232,391
Andhra Pradesh	60,964
Karnataka	40,797
Kerala	15,023
Tamil Nadu	61,499
Pondicherry	1,808
Lakshadweep#	25
Southern Region	180,091
Bihar	8,425
DVC	11,542
Jharkhand	4,369
Orissa	17,101
West Bengal	26,538
Sikkim	223
Andaman -Nicobar#	240

State/System/Region	Energy Requirement (Million Units)
Eastern Region	68,198
Arunachal Pradesh	286
Assam	4,297
Manipur	451
Meghalaya	1,368
Mizoram	235
Nagaland	343
Tripura	802
North-Eastern Region	7,782
ALL INDIA:	690,587

#Lakshadweep and Andaman and Nicobar Islands are stand-alone systems, power supply position of these, does not form part of regional requirement and availability.

Note: Both Peak Demand and energy availability represent the net consumption.

(including the transmission losses) in the various States. Net export has been accounted for in the consumption of importing States.

PLF of Power Generation Plants

1809. SHRI RAMDAS AGARWAL: Will the Minister of POWER be pleased to state:

(a) what is the present Plant Load Factor (PLF) of Centrally Controlled Power Generation Plants in the country;

(b) whether it is a fact that a large number of plants are not working under normal working capacity;

(c) if so, the reasons therefor; and

(d) the details of remedial steps Government has taken so far, to improve/enhance capcity of such power generation plants?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) The overall Plant Load Factor (PLF) of Central Sector Thermal Power Stations (coal & lignite) and nuclear power plants in the country during the current financial year (April, 2007-February, 2008) was 86.4% and 46.6% respectively.

(b) and (c) The performance of power plants (generation, PLF etc.) is dependent on a number factors like installed capacity, age of the units, past performance, planned outages, availability of water/fuel (both quantity and quality), etc. While availability of water during monsoon and non-monsoon season as well as irrigation requirements influence performance of hydro-power stations, the quality and availability of fuel have a bearing on the performance of thermal power stations. Therefore, the actual performance of some power plants, mostly in the state sector, is at variance with their normal working capacity.

(d) The following steps have been/are being taken by the Government of India to bring improvement in the generation capacity of poorly performing stations: